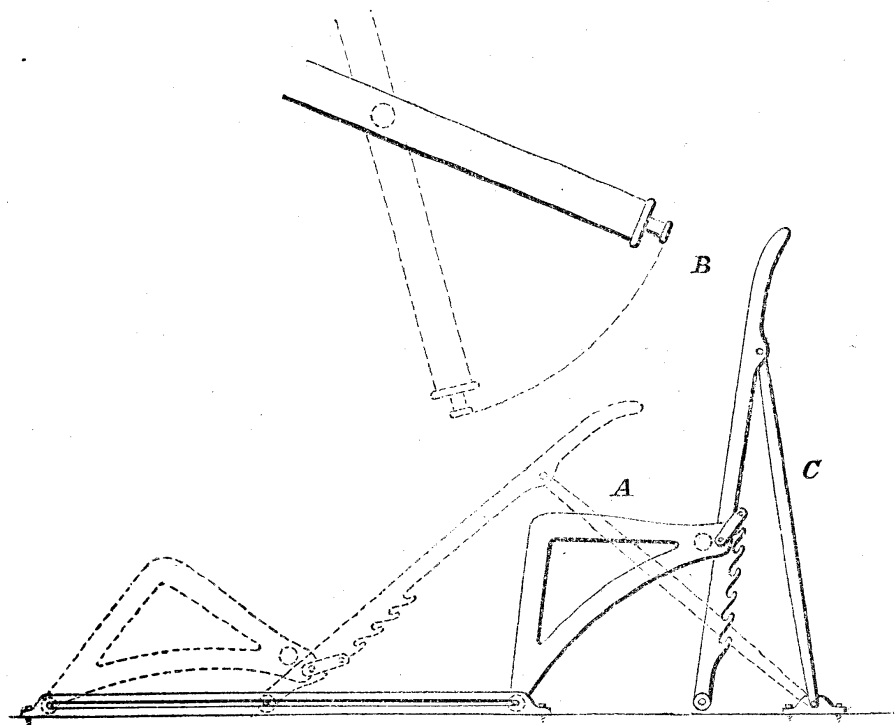


Suggestion for an Observing Seat for Transit Instruments.
By Richard Inwards.

The accompanying drawing shows the proposed form of seat. It consists mainly of three moveable parts—the seat A, the back B, and the strut C, the latter being attached to a hinge-piece screwed into the floor.



The seat is raised or depressed by altering the position of the supporting link upon the rack of B. This at the same time alters the height of the seat and the slope of the back, as well as thrusts the whole chair forward by the action of the hinged strut C, as shown by the dotted lines in the diagram. This enables the observer to follow with comfort all the usual movements of the telescope. The addition of a small moveable pad or cushion behind the head may be necessary to complete the adjustment in some positions. A roller keeps the seat and back always in contact.

A seat on a similar principle can be made in which the observer can by means of a tangent screw and rack alter his position without leaving the seat. A model illustrating this was exhibited to the meeting.

1884, Jan. II.

On the Latitude of the Observatory, Windsor, N.S. Wales.

By John Tebbutt.

The latitude hitherto adopted (namely, $-33^{\circ} 36' 28''.9$) is that of the prime vertical pier of the old Observatory as deduced from prime vertical observations with a 2-in. Transit instrument during the years 1867, 1868, 1869, 1870, and 1874. The stars employed were nine in number, culminating within $39'$ of the zenith. Their positions, however, rested almost wholly on observations with the old Parramatta Transit Circle at the Sydney Observatory, and were therefore very imperfect. Of the ninety-three observations fifty-nine were made on the middle wire only of the Transit instrument, and thirty-four on a side wire with the instrument reversed, according to Struve's method, both before and after the meridian passage. I have recently investigated a correction to this latitude from more accurate places of the stars as obtained from the Sydney Catalogues for 1877 and 1878, the Melbourne Catalogue for 1870, the Cape Catalogue for 1880, and recent MS. observations kindly communicated by Messrs. Ellery and Russell. The new result is $-33^{\circ} 36' 29''.1$, and the reduction $-0''.4$ applied to this value gives $-33^{\circ} 36' 29''.5$ as the latitude of the piers of the Meridian Transit and Equatorial instruments in the new Observatory adjoining, erected in 1879. During the year 1881 I made a new investigation of the latitude by means of an excellent 3-in. Transit instrument temporarily mounted on the prime vertical pier of the new Observatory, the local times being obtained for the purpose by means of the old 2-in. Transit. The stars selected for observation were Nos. 3908, 3916, and 4180 of the Washington Catalogue for 1860, and Nos. 4015, 4309, and 879 of the B.A. Catalogue for 1850. The mean places were adopted from the Southern Catalogues above-mentioned and MS. results obtained by Messrs. Ellery and Russell in 1881, and were weighted according to the number of observations from which each was derived. Proper motion was applied from the best authorities available. The transit system of the 3-in. telescope consists of five threads, and so far as the first five stars are concerned the method adopted was to observe the transits east and west across as many threads as possible, the rotation axis of the instrument being in the same position throughout the observations of each evening. The pivots were, however, reversed between the observations of different evenings. In the case of the last star the transits were observed four times each evening across one or more of the side threads according to Struve's method described in Chauvenet's "Spherical and Practical Astronomy" (1874, vol. ii., p. 262). A value of the latitude was then deduced from each pair of observations of a thread with the pivots in the same direction, and it was thus assumed that the collimation error, which was itself very small throughout the series of observations, would be eliminated from the mean result. During the observations of B.A.C. 879 the opportunity was also taken to note the transit across the middle